IS 11967-2-1 (1989): Radio Frequency Coaxial Cables, Part 2: Polyethylene (Semi-Solid Cables), Section 1: Type R 75-5-B 100 [LITD 6: Wires, Cables, Waveguides and Accessories]

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IS 11967 (Part 2/Sec 1) : 1989
(Reaffirmed 2003)

Indian Standard

SPECIFICATION FOR RADIO FREQUENCY COAXIAL CABLES

PART 2 POLYETHYLENE (SEMI-SOLID CABLES)

Section 1 Type R 75-5-B 100

भारतीय मानक

रेडियो आवृति केबलों की विशिष्टि

भाग 2 पालीइथाइलीन (अर्धठोस केबल)

अनुभाग 1 प्रकार आर 75-5-बी 100

UDC 621·315·211·029·5 : 621·315·616·96 [678·742·2]

BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

January 1990

Price Group 1

FOREWORD

This Indian Standard (Part 2/Sec 1) was adopted by the Bureau of Indian Standards on 15 May 1989, after the draft finalized by the Wires and Cables for Electronic Equipment Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard is being brought out in various parts. Part 1 covers radio frequency coaxial cables with solid polyethylene insulation, Part 2 covers radio frequency coaxial cables with polyethylene (semi-solid) insulation, and Part 3 covers radio frequency coaxial cables with solid extruded/tape wrapped PTFE insulation. Each of these parts is again issued in several sections. Each section covers a particular type of these cables.

This standard (Part 2/Sec 1) covers polyethylene (semi-solid) radio frequency coaxial cables of characteristic impedance 75 ohms. The cable covered under this standard is generally used for power line carrier communication applications.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SPECIFICATION FOR RADIO FREQUENCY COAXIAL CABLES

PART 2 POLYETHYLENE (SEMI-SOLID CABLES)

Section 1 Type R 75-5-B 100

1 SCOPE

1.1 This standard specifies dimensions, constructional details and the requirements of polyethylene (semi-solid) radio frequency cables of Type R 75-5-B 100.

2 REFERENCE

IS No.	*Title*
IS 5026 : 1987	General requirements and tests for radio frequency cables (*first revision*)

3 OUTLINE CONSTRUCTIONAL DRAWING

3.1 The outline constructional drawing of the cable is shown in Fig. 1.

4 CONSTRUCTION

4.1 The constructional details of the cable are given in Table 1.

5 REQUIREMENTS

5.1 The requirements of the cables are given in Table 2.

6 ENGINEERING INFORMATION

6.1 The engineering information shall be as follows:

a) Operating voltage : 1·5 kV rms, *Max*;

b) Operating frequency : 500 kHz, *Max*;

c) Power rating : 150 Watts, nominal;

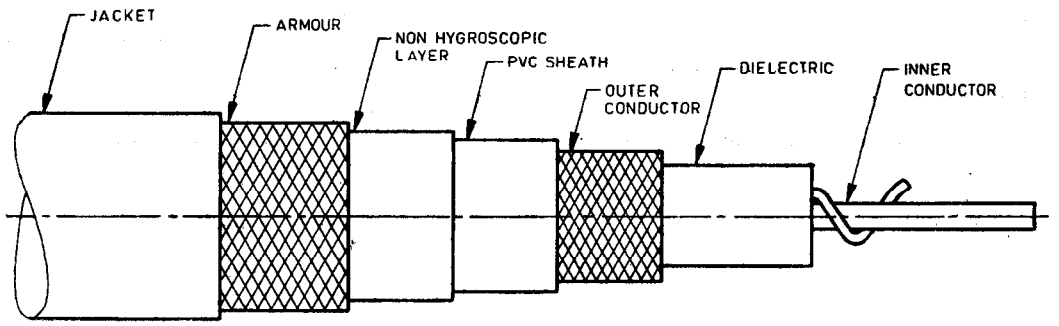

FIG. 1 OUTLINE DRAWING (UNBALANCED CABLE)

Table 1 Constructional Details

(*Clause* 4.1)

Item	Details	Diameter mm
Inner conductor	Solid plain hard drawn copper	1·22 ± 0·03
Dielectric	Polyethylene semi-air spaced	5·30 ± 0·15
Outer conductor	Single braid, 0·20 mm tinned copper wire Minimum coverage : 90%	
Sheath	Type 2	8·00 ± 0·25
Armour	Galvanized steel wire braiding: Wire diameter : 0·30 mm Minimum coverage : 70%	
Jacket	Type 2	12·50 ± 0·50

Table 2 Requirements

(*Clause* 5.1)

Test	Requirements	Clause Reference of IS 5026 : 1987
Dielectric strength	4 500 V (rms)	6·7
Spark test:		6·6
a) Dielectric	6 000 V (rms)	
b) Sheath	3 000 V (rms)	
Insulation resistance	10 000 Mohm/km, *Min*	6·8
Capacitance (for information only)	54 pF/m, Nominal	6·13
Attenuation:		6·11
at 10 kHz	1·2 dB/km	
at 60 kHz	1·8 dB/km	
at 300 kHz	3·9 dB/km	
at 500 kHz	5·5 dB/km	
Characteristic impedance	75 ohms ± 10%	6·10
Weight (approx) (for information only)	200 g/m	6·31

d) Operating temperature range : −15 to 85°C;

e) Maximum conductor resistance : 16 ohms/km at 20°C;

f) Tensile strength of the conductor : 460 N/mm^2;

g) Elongation of the conductor : 1 percent *Min*; and

h) Minimum bending radius 12 *D*, where *D* is the overall diameter of the cable.

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